
Digital Trunk Diagnostic

The Digital Trunk Interface diagnostic program is used to maintain the following:

- QPC472 Digital Trunk Interface (DTI)
- QPC536 2.0 Mb/s Digital Trunk Interface (DTI)
- QPC720 Primary Rate Interface (PRI)
- QPC471 and QPC775—Clock Controller
- QPC785 2.0 Mb/s Digital Trunk Interface (DTI)
- NT8D72AA 2.0 Mb/s Primary Rate Interface (PRI2)

DTA messages

DTA0001 loop	Data block is not defined.
DTA0002 loop	Message received with wrong chip field.
DTA0003 loop	Power up message received.
DTA0004 loop	Phase Lock Loop (PLL) clear message is received without phase lock loop alarm.
DTA0005 loop	Yellow alarm (remote alarm) has occurred.
DTA0006 loop	Yellow alarm (remote alarm) 24-hour threshold has been exceeded. Manual intervention is required.
DTA0007 loop	Yellow alarm (remote alarm) is cleared.
DTA0008 loop	Yellow alarm (remote alarm) is disabled.
DTA0009 loop	Phase lock loop alarm has occurred.

DTA0010 loop	Phase lock loop alarm has cleared.
DTA0011 loop	Bit error rate warning threshold.
DTA0012 loop	Bit error rate out-of-service limit.
DTA0013 loop	Too many bit error rate out-of-service occurrences in 24 hours.
DTA0014 loop	Bit error rate alarm cleared.
DTA0015 loop	Frame slip—tracking—maintenance limit.
DTA0016 loop	Frame slip—tracking—out-of-service limit.
DTA0017 loop	Frame slip—free run (non-tracking)—maintenance limit.
DTA0018 loop	Frame slip—free run (non-tracking)—out-of-service limit.
DTA0019 loop	Frame alignment maintenance limit.
DTA0020 loop	Frame alignment out-of-service limit.
DTA0021 loop	Frame alignment alarm persisted for 3 seconds.
DTA0022 loop	Frame alignment alarm has cleared for at least 15 seconds.
DTA0023 loop	PRI loop is up.
DTA0024 loop	System initiated (automatic, LD 45 or LD 60) self-test on PRI loop L failed. All channels are disabled, loop is put into red alarm (local alarm).
DTA0025 loop	System initiated (automatic, LD 45 or LD 60) self-test on PRI loop L passed. Channels were previously disabled due to self-test fault or a loop-level self-test. Channels are enabled and red alarm (local alarm) is removed.
DTA0026 loop	Non-tracking frame slip out of service limit is reached while monitoring frame slip improvement. Trunks remain out-of-service and the improvement timer (prompt SRIM in LD 73) is restarted.
DTA0027	Frame slip—free run (non-tracking)—guard timer expired. Trunks are kept out of service. Software is checking for slip rate improvement. The improvement criterion is the number of maintenance messages the system gets during the guard time.
DTA0028 loop	Slip rate improvement criterion is not met. Trunks remain out-of-service, improvement timer is reset (prompt SRIM in LD 73).

DTA0029 loop	Non-tracking frame slip rate improvement criterion is met. Trunks being returned to service.
DTA0030 loop	Alarm status input message received from an unexpected loop.
DTA0100 l s c u	Far-end hardware corresponding to Virtual Terminal l s c u is disabled.
DTA0101 l s c u	Far-end hardware corresponding to Virtual Terminal l s c u is enabled.
DTA0102 loop	Power is up on the PRI2 board.
DTA0103 loop	Problem in loop or channel message of PRI2.
DTA0104 loop	Channel self-test report for PRI2.
DTA0105 loop	Loop self-test report for PRI2.
DTA0106 loop	PRI2 Loop is in acceptable state.
DTA0107 loop	PRI2 Loop is in G1 MNT state.
DTA0108 loop	PRI2 Loop is in G1 NNC state.
DTA0109 loop	PRI2 Loop is in G1 OOS state.
DTA0110 loop	PRI2 Loop is in G2 MNT state.
DTA0111 loop	PRI2 Loop is in G2 NNC state.
DTA0112 loop	PRI2 Loop is in G2 OOS state.
DTA0113 loop	PRI2 Loop is in OOS state with no auto-start.
DTA0114 loop	PRI2 loop is disabled, and message received is not power up.
DTA0115 loop	Unsolicited PRI2 message received.
DTA0116 loop	PRI2 loop is in G1 NNDC state.
DTA0117 loop	PRI2 loop is in G2 NNDC state.
DTA0200 loop	The DTI2 (NI and CI-1) firmware has initialized.
DTA0201 loop	The Carrier Interface (CI-1) firmware has initialized.
DTA0202 loop	The Network Interface (NI) firmware has initialized.

DTA0203 loop e A Group 2 error has been detected by the DTI card. Error (e) = 1 to 127 (Decimal). Listed below are various error types (e) and their value in decimal.

Error Type (e); Abbreviation; Decimal Value

Loss of CRC4 Multiframe Alignment; CF; 1

64 kb Alarm Indication Signal; AS; 2

B6 TS0 non-FAS (far-end OOS); C3; 4

Loss of Frame Alignment; LF; 8

Loss of Multiframe Alignment; LM; 16

Alarm Indication Signal; AI; 32

B3 TS16 Frame 0 (far-end OOS); C6; 64

To interpret any given value of (e), you must translate (e) to binary. For example, if (e) = 24 (decimal), the translated binary value = 0 0 1 1 0 0 0. This binary value may now be interpreted as follows:

0 = C6

0 = AI

1 = LM

1 = LF

0 = C3

0 = AS

0 = CF

Therefore, the errors are for LF and LM.

DTA0203 loop x y A Group 2 error has been detected by the PRI2 card. The error information is decoded as follows, where x :

4 = LOS (loss of signal)

3 = AIS (alarm indication signal)

2 = LFAS (loss of frame) 1 = LMAS (loss of CRC multiframe)

0 = RAI (remote alarm indication)

Where y:

2 = alarm occurred

1 = alarm persisted

0 = alarm cleared

Example: DTA203 7 4 2 - PRI loop 7 loss of signal occurred.

DTA0204 loop e Incomplete or incorrect ANI was received by CDTI2/CSDTI2 FW (outgoing trunk) which reports this fact to the main CPU by SSD messin 9 (NI problem report).

Action: This is a “warning only” message. No additional actions are taken. The call will be processed regularly. However, FW will use the special hardcoded in FW value as ANI.

DTA0205 loop e The CI-1 firmware has encountered a problem.

Action: Refer to DTI009 for CI-1 microprocessor error codes (e).

DTA0206 loop Response to channel status poll has timed out. The channel has been disabled.

DTA0207 loop s c An invalid signal has been received from the DTI. Where: s = ABCD signal received from DTI; c = channel.

DTA0208 loop s c An invalid signal has been requested to be sent to the DTI. Where: c = channel, s = signal type requested.

DTA0209 loop DTI loop is in acceptable state.

DTA0210 loop e DTI loop is in Group 1 MNT state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC- CRC4 Violation (Option 11 only)

DTA0211 loop e DTI loop is in Group 1 NNC state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC-CRC4 Violation (Option 11 only)

DTA0212 loop e DTI loop L is in Group 1 OOS state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC-CRC4 Violation (Option 11 only)

DTA0213 loop e DTI loop is in Group 2 MNT state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC-CRC4 Violation (Option 11 only)

DTA0214 loop e DTI loop is in voice Group 2 NNC state, where error (e) is one or more of:

C3 - B3 TSO non-FAS (far-end Out-of-Service)

C6 - B6 TS16 frame 0 (far-end lost MFA signal)

CF - Loss of CRC-4 Multiframe Alignment

AS - 64 kb Alarm indication signal

AI - Alarm Indication signal

LM - Loss of Multiframe alignment

LF - Loss of Frame alignment

CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0215 loop e DTI loop is in Group 2 OOS state, where error (e) is one or more of the following:

C3 - B3 TSO non-FAS (far-end Out-of-Service)

C6 - B6 TS16 frame 0 (far-end lost MFA signal)

CF - Loss of CRC-4 Multiframe Alignment

AS - 64 kb Alarm indication signal

AI - Alarm Indication signal

LM - Loss of Multiframe alignment

LF - Loss of Frame alignment

CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0216 loop e DTI loop is in Group 1 MNT state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC- CRC4 Violation (Option 11 only)

DTA0217 loop e DTI loop is in Group 1 NNC state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC-CRC4 Violation (Option 11 only)

DTA0218 loop e DTI loop L is in Group 1 OOS state, where error (e) is one or more of:

BV - Bipolar Violation

FV - Frame Alignment Violatio

SV - Slip Violation

CV - Cyclic Redundancy Check (CRC-4) Violation

CRC-CRC4 Violation (Option 11 only)

DTA0219 loop e DTI loop is in Group 2 MNT state, where error (e) is one or more of:

C3 - B3 TSO non-FAS (far-end Out-of-Service)

C6 - B6 TS16 frame 0 (far-end lost MFA signal)

CF - Loss of CRC-4 Multiframe Alignment

AS - 64 kb Alarm indication signal

AI - Alarm Indication signal

LM - Loss of Multiframe alignment

LF - Loss of Frame alignment

CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0220 loop e DTI loop is in voice Group 2 NNC state, where error (e) is one or more of:

C3 - B3 TSO non-FAS (far-end Out-of-Service)

C6 - B6 TS16 frame 0 (far-end lost MFA signal)

CF - Loss of CRC-4 Multiframe Alignment

AS - 64 kb Alarm indication signal

AI - Alarm Indication signal

LM - Loss of Multiframe alignment

LF - Loss of Frame alignment
CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0221 loop e DTI loop is in Group 2 OOS state, where error (e) is one or more of the following:

C3 - B3 TSO non-FAS (far-end Out-of-Service)

C6 - B6 TS16 frame 0 (far-end lost MFA signal)

CF - Loss of CRC-4 Multiframe Alignment

AS - 64 kb Alarm indication signal

AI - Alarm Indication signal

LM - Loss of Multiframe alignment

LF - Loss of Frame alignment

CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0222 loop DTI loop is in OOS state with no auto-start.

DTA0223 Wrong ABCD bits change reported by proper SSD messin from CDTI2/ CSDTI2 FW.

Action: Trunk is locked out.

DTA0223 loop s ch An invalid signal has been received from the DTI. It matches CCITT fault signal. Far-end may be disabled. Where: c= channel and s = ABCD signal received from DTI.

DTA0224 loop ch DTI loop audit has found channel (ch) to be in an invalid HALFDISCONNECT state (trunk lock-up). An disconnect attempt is being made on the CHNL.

DTA0225 loop DTI loop is in G1 NNDC (No New Data Call) grade-of-service. Where (e) is one or more of the following:

BV - Bipolar Violation

FV - Frame Alignment Violation

SV - Slip Violation

CV - CRC-4 Violation

DTA0226 loop DTI loop is in G2 NNDC (No New Data Call) grade-of-service. Where (e) is one or more of the following:

C3 - B3 TS0 non-FAS (far-end Out-of-Service)
 C6 - B6 TS16 frame 0 (far-end lost MFA signal)
 CF - Loss of CRC-4 Multiframe Alignment
 AS - 64 kb Alarm indication signal
 AI - Alarm Indication signal
 LM - Loss of Multiframe alignment
 LF - Loss of Frame alignment
 CFAS - Loss of CRC4 Multiframe Alignment (Option 11 only)

DTA0300 loop A slip repetition has occurred on PRI2 loop.

DTA0301 loop A slip deletion has occurred on PRI2 loop.

DTA0302 loop A slip repetition overflow has occurred on PRI2 loop.

DTA0303 loop A slip deletion overflow has occurred on PRI2 loop.

DTA0304 loop A BPV unavailable condition has occurred on PRI2 loop.

DTA0305 loop A CRC unavailable condition has occurred on PRI2 loop.

DTA0306 loop A FAP unavailable condition has occurred on PRI2 loop.

DTA0307 loop A BPV no-new-calls condition exists on PRI2 loop.

DTA0308 loop A CRC no-new-calls condition exists on PRI2 loop.

DTA0309 loop A FAP no-new-calls condition exists on PRI2 loop.

DTA0310 loop A BPV maintenance condition has occurred on PRI2 loop.

DTA0311 loop A CRC maintenance condition exists on PRI2 loop.

DTA0312 loop A FAP maintenance condition exists on PRI2 loop.

DTA0320 loop DTI loop error reporting was disabled due to an overload of input messages.

DTA0321 loop Error reporting reenabled on DTI loop after being disabled by an input overload (DTA320).

DTA0322 l ch w x y z An invalid pulsed signal has been received from the DTI. Where:
 l = DTI loop/card number

ch = channel number

w = start bits (the ABCD bit pattern before analysis of the pulse)

x = pulsed bits (the ABCD pattern which was possibly part of a pulsed signal)

y = end bits (the ABCD pattern received after the pulse)

z = duration (length of the pulse in milliseconds)

DTA0323 loop mtype An unexpected message type. Messin 28 received is permissible for DTI2 loop on CDTI2 card only.

(mtype - message type)

DTA0324 {loop number} A Phantom DTI2 loop has been found in a disabled state and is put back in an enabled state.

Action: None, as the cause of the data corruption has been cleared.

DTA0325 {TN1} {TN2} {N} An ISPC phantom DTI2 (or an ISPC PRI2 trunk) has been found in an invalid state. To avoid any new problem in the system, the calls are cleared in the following manner:

- The ISPC phantom DTI2 trunk is put in a disabled state. - The ISPC call active on the PRI2 trunk (which is linked with the phantom DTI2 trunk) is cleared.

Where: TN1 = TN of the phantom DTI2 trunk TN2 = TN of the real PRI2 trunk N = Details of the problem, as follows:

- 1 - TNTRANS of PHTN_PHANTOM failed.
- 2 - No ACTIVECR on the PRI2 trunk.
- 3 - TERTN of ACTIVERCR is not equal to PHTN_PHANTOM.
- 4- No link from phantom DTI2 trunk to the PRI2 trunk.
- 5 - the flag ISPC active of the PRI2 TN is not set.
- 6 - PHTN_PHANTOM of PRI2 is not the TN of the DTI2 unit.
- 7 - The PRI2 unit is not the orig party of the ISPC CR.
- 11 - TNTRANS of PHTN_REAL failed.
- 12 - The real TN of the phantom DTI2 TN is not a PRI2 TN.
- 13 - The flag ISPC active of the DTI2 TN is not set.
- 14 - The ISPC_CR of the DTI2 unit is not valid.
- 15 - The DTI2 unit is not the terminating party of the ISPC CR.

16 - The field PHTN_REAL of the DTI2 trunk should be null as the trunk is disabled. Field is corrected.

17 - The field PHTN_PHANTOM of the DTI2 trunk should be null as the trunk is disabled. Field is corrected.

18 - The field ISPC_ACTIVE of the DTI2 trunk should be null as the trunk is disabled. Field is corrected.

20 - the MAINPM of the ISPC call register is not established.

21 - There are some timeslots in the ISPC call register.

22 - the ISPC_CR of the DTI2 unit is not the ACTIVECR of the PRI2 unit.